

REMARKS

In the Office Action dated August 30, 2004, claims 1 and 10 were objected to because these claims include the limitation of "conductive material having etch selectivity with respect to said insulating material" and allegedly "it is not clear from the Figures or the description in the specification, what etchant is used to compare the etch selectivity of the conductive material with respect to the insulating material." In response, Applicant respectfully submits that the limitation in question is a properly recited claim limitation. Applicant does not understand why the type of etchant used is relevant since a material can have etch selectivity for different types of etchant. As an example, the specification on page 7, lines 25-28, states that "[t]he electrically isolated electrodes 110 are made of silicon-based conductive material, e.g., doped polysilicon, having etch selectivity with respect to a masking layer, e.g., a photoresist layer, and the insulating layer 114 for deep reactive ion etching (DRIE)." Thus, it is clear that, in an embodiment of the invention, the claimed "conductive material" has "etch selectivity with respect to [an] insulating material" for reactive ions used in DRIE. Therefore, Applicant respectfully requests that the objection to claims 1 and 10 be withdrawn.

The Office Action has also rejected claims 1-15 under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,888,884 ("Wojnarowski") in view of U.S. Patent No. 6,201,631 ("Greywall"). In response, Applicant respectfully asserts that the Office Action has failed to establish a *prima facie* case of obviousness for the independent claims 1 and 10, as explained in the following remarks. In view of the following remarks, Applicant respectfully requests the allowance of the pending claims 1-15.

In responding to the Office Action, Applicant has amended the specification to insert the serial number for a simultaneously filed U.S. patent application. Specifically, the paragraph [0027] beginning at page 8, line 14, has been amended to insert the serial number of 10/664,947 for U.S. patent application entitled "Stepping Electrostatic Comb Drive Actuator".

A. Patentability of Independent Claims 1 and 10

The Office Action has rejected the independent claims 1 and 10 under 35 U.S.C. §103(a) as allegedly being unpatentable over Wojnarowski in view of Greywall. However, the Office Action has failed to establish a *prima facie* case of obviousness for claims 1 and 10 since there is no suggestion or motivation to combine the teachings of the cited references. Furthermore, the cited references do not teach or suggest all of the claimed limitations of claims 1 and 10. In particular, the cited references do not teach or suggest the limitation of “electrically isolated electrodes arrayed along said layer of insulating material on said side surface,” as recited in claims 1 and 10. As such, Applicant respectfully asserts that claims 1 and 10 are not obvious in view of the cited references, and thus, should be allowed.

To establish a *prima facie* case of obviousness, the following three basic criteria must be met, as set forth in MPEP §2143:

“First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations.”

With respect to claim 1, the Office Action alleges that “[i]t would have been obvious to a person of ordinary skill in the art at the time invention was made to incorporate the conductive material having etch selectivity with respect to the insulating material as taught by Greywall so that the electrode profile can be improved and undercut can be prevented in Wojnarowski’s structure.” However, there is no suggestion or motivation in the cited references to combine the teachings of Greywall and Wojnarowski. The relevant teaching of Greywall is related to forming cavities 9 in a bottom silicon layer 50 of a silicon-oxide-silicon substrate (see Fig. 5), not etching metallizations 62 on side surfaces of a wafer segment 70 (see Fig. 8 of Wojnarowski). There is no suggestion or motivation in the cited references to apply the teaching of Greywall to metallizations on side surfaces of a wafer segment, as disclosed in Wojnarowski.

"The teaching or suggestion to make the claimed combination must be found in the prior art, and not based on the applicant's disclosure." *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As the Examiner admits, "Wojnarowski fails to teach the conductive material having etch selectivity with respect to the insulating material." The Examiner then suggests that it would have been obvious to combine the teachings of Wojnarowski and Greywall "so that the electrode profile can be improved and undercut can be prevented in Wojnarowski's structure." Besides this unsupported generic assertion, the prior art of record provide no suggestion or motivation to combine the teachings of Wojnarowski and Greywall, as suggested by the Examiner.

Therefore, the Examiner has failed to provide a valid suggestion or motivation in the prior art of record to incorporate the teachings of Wojnarowski and Greywall. Indeed, it would require impermissible hindsight occasioned by the Applicant's disclosure to provide the suggestion or motivation to incorporate the teachings of Wojnarowski and Greywall, where the cited references provide no such suggestion or motivation. However, if the suggestion or motivation asserted in the Office Action is based on facts within the personal knowledge of the Examiner, the Examiner is requested to provide an affidavit in accordance with 37 C.F.R. § 1.104(d)(2).

In addition, the cited references of Wojnarowski and Greywall do not teach or suggest all of the claimed limitations of claim 1, as required to establish a *prima facie* case of obviousness. In particular, the cited references do not teach or suggest the limitation of "electrically isolated electrodes arrayed along said layer of insulating material on said side surface," as recited in claim 1.

The Office Action alleges that Wojnarowski discloses "a plurality of electrically isolated and patterned electrodes/channels arrayed along the layer of the insulating material on the side surfaces (see 62/64 being connected with respective one of the interconnects/pads 40 in Fig. 8; Col. 6, lines 37-43; Col. 7, lines 49-65)." However, claim 1 recites a limitation of "electrically isolated electrodes arrayed along said layer of insulating material on said side surface" (emphasis added). Thus, the "electrically isolated electrodes" of claim 1 are claimed to be arrayed along a layer of insulating material on one side surface, not multiple side surfaces.

As illustrated in Fig. 8, Wojnarowski discloses one metallization 62 on either side surface of a wafer segment 70. Wojnarowski does not disclose more than one metallization on the same side surface of the wafer segment 70. Therefore, Wojnarowski does not teach or suggest "electrically isolated electrodes arrayed along said layer of insulating material on said side surface," as recited in claim 1. As such, Applicant respectfully asserts that the independent claim 1 is not obvious in view of the cited references, and thus, should be allowed.

The above remarks are also applicable to the independent claim 10, which recites a similar limitation of "electrically isolated electrodes arrayed along said layer of insulating material on said side surface such that said electrically isolated electrodes extend substantially in a direction orthogonal to said major surface." As such, Applicant respectfully asserts that the independent claim 10 is also not obvious in view of the cited references, and thus, should be allowed.

B. Patentability of Dependent Claim 2-9 and 11-15

Each of the dependent claims 2-9 and 11-15 depends on one of the independent claims 1 and 10. As such, these dependent claims include all the limitations of their respective base claims. Therefore, Applicant submits that these dependent claims are allowable for at least the same reasons as their respective base claims.

Applicant respectfully requests reconsideration of the claims in view of the remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,
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